



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 6 Laboratory

Environmental Services Branch

10625 Fallstone Road, Houston, TX 77099

Phone: (281)983-2100 Fax: (281)983-2248

DRAFT Final Analytical Report

Site Name ----- Craft Turney
Sample Collection Date(s)-- 10/10/18
Contact----- Kim Ngo (6WQ-SD)
Report Date----- 10/12/18
Project #----- 19SDWA007
Work Order(s)----- 1810011

Analyses included in this report:

P/P GC-NPD - Methylene bis(thiocyanate)

Report Narrative

The analytical method used for this test is new and was developed specifically for drinking water samples collected by TCEQ for the Craft-Turney Drinking Water Incident. The analytical method developed and used by the EPA Region 6 Houston Environmental Laboratory (Lab) has not been externally validated, and the Lab is not certified to test for this chemical. Quantitation was made using pure Methylene bis(thiocyanate) [MBT] product that was provided to the Lab by ISK Biocides, Inc. Samples were collected using EPA Drinking Water Method 525.2 preservatives (HCl to pH 2; sodium sulfite dechlorination). Literature searches showed the MBT target to be stable in water at pH 5 and below and not subject to oxidation by free chlorine (internal Lab tests confirmed that MBT survived in chlorinated tap water that was not dechlorinated). These Lab tests also showed the dechlorinating agent did not negatively affect recovery; therefore, samplers were instructed to follow the same 525.2 protocol that was used for collecting other incident related samples. Samples were extracted by micro-extraction and analyzed by Gas Chromatography - Nitrogen Phosphorous Detector (GC-NPD) analysis. Standard quality control procedures were followed.

Batch B8J1114: MBT fails high in the MS/MSD. MBT was not detected in any sample so the high failure should not affect the data.

Sample Management:

Sample 1810011-19 (W011003-01) had a time of collection on the containers of 10:15 but was

Report Narrative (cont'd)

listed on chain of custody as 10:25. Sample was logged into LIMS per the chain of custody.

Sample 1810011-31 (W011005-01) and 1810011-32 (W011005-02) had no time of collection on the containers. Sample was logged into LIMS per the chain of custody.

Standard procedures for quality assurance and quality control were followed in the analysis and reporting of the sample results. The results apply only to the samples tested. This final report should only be reproduced in full.

The reporting limit (sometimes referred to as a quantitation limit) is defined as the lowest concentration at which an analyte can be reliably measured and reported without qualification. Reporting limits are adjusted for sample size, dilution, and matrix interference. Concentrations below the reporting limit are reported as non-detects or <RL.

For a list of ISO 17025 accredited methods go to:

<http://region6a.epa.gov/intranet/6md/lab/labisocertification2018.pdf>

Report Approvals:

Richard McMillin
Region 6 Laboratory Technical Manager

David W. McQuiddy
Region 6 Laboratory Branch Chief



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Sample Receipt and Disposal

Site Name: Craft Turney

Project Number: 19SDWA007

Data Management Coordinator: Christy Warren

Data Management Coordinator Signature

Date

Date Transmitted: ____/____/____

Please have the U.S. EPA Project Manager/Officer call the Data Management Coordinator at 3-2137 for any comments or questions.

Please sign and date this form below and return it with any comments to:

Christy Warren
Data Management Coordinator
Region 6 Laboratory
6MD-HS

Received by and Date

Comments:

The laboratory routinely disposes of samples 90 days after all analyses have been completed. If you have a need to hold these samples in custody longer than 90 days, please sign below.

Signature

Date

Please provide a reason for holding:



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ANALYTICAL REPORT FOR SAMPLES

19SDWA007 Craft Turney

Station ID	Laboratory ID	Sample Type	Date Collected	Date Received
W011010-01	1810011-01	Liquid	10/10/18 14:15	10/10/18 19:45
W011023-01	1810011-02	Liquid	10/10/18 13:25	10/10/18 19:45
W011023-02	1810011-03	Liquid	10/10/18 13:45	10/10/18 19:45
W011023-03	1810011-04	Liquid	10/10/18 14:05	10/10/18 19:45
W011013-01	1810011-05	Liquid	10/10/18 13:30	10/10/18 19:45
W011013-02	1810011-06	Liquid	10/10/18 13:45	10/10/18 19:45
W011013-03	1810011-07	Liquid	10/10/18 14:00	10/10/18 19:45
W011003-02	1810011-08	Liquid	10/10/18 10:48	10/10/18 19:45
W011003-03	1810011-09	Liquid	10/10/18 11:17	10/10/18 19:45
W011009-01	1810011-10	Liquid	10/10/18 13:16	10/10/18 19:45
W011009-02	1810011-11	Liquid	10/10/18 13:33	10/10/18 19:45
W011009-03	1810011-12	Liquid	10/10/18 13:49	10/10/18 19:45
W011004-02/03	1810011-13	Liquid	10/10/18 11:55	10/10/18 19:45
W011014-01	1810011-14	Liquid	10/10/18 11:26	10/10/18 19:45
W011021-02	1810011-15	Liquid	10/10/18 10:45	10/10/18 19:45
W011028-01	1810011-16	Liquid	10/10/18 10:25	10/10/18 19:45
W011028-02	1810011-17	Liquid	10/10/18 12:23	10/10/18 19:45
W011028-03	1810011-18	Liquid	10/10/18 11:04	10/10/18 19:45
W011003-01	1810011-19	Liquid	10/10/18 10:25	10/10/18 19:45
W011004-01	1810011-20	Liquid	10/10/18 11:28	10/10/18 19:45
W011014-02	1810011-21	Liquid	10/10/18 12:00	10/10/18 19:45
W011021-01	1810011-22	Liquid	10/10/18 10:24	10/10/18 19:45
W011021-03	1810011-23	Liquid	10/10/18 11:06	10/10/18 19:45
W011017-01	1810011-24	Liquid	10/10/18 11:10	10/10/18 19:45
W011017-02	1810011-25	Liquid	10/10/18 11:29	10/10/18 19:45
W011019-01	1810011-26	Liquid	10/10/18 10:05	10/10/18 19:45
W011019-02	1810011-27	Liquid	10/10/18 10:35	10/10/18 19:45
W011007-01	1810011-28	Liquid	10/10/18 11:06	10/10/18 19:45
W011007-02	1810011-29	Liquid	10/10/18 11:30	10/10/18 19:45
W011007-03	1810011-30	Liquid	10/10/18 10:30	10/10/18 19:45
W011005-01	1810011-31	Liquid	10/10/18 11:46	10/10/18 19:45
W011005-02	1810011-32	Liquid	10/10/18 12:07	10/10/18 19:45
W011022-01	1810011-33	Liquid	10/10/18 10:05	10/10/18 19:45
W011022-02	1810011-34	Liquid	10/10/18 10:25	10/10/18 19:45
W011022-03	1810011-35	Liquid	10/10/18 10:50	10/10/18 19:45



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QC SUMMARY REPORT

P/P GC-NPD - Methylene bis(thiocyanate)	
B8J1113	
Liquid	
Samples: 20	ReExts: 0
LAB NUMBER	SOURCE
B8J1113-BLK1	
B8J1113-BS1	
B8J1113-MS1	1810011-13
B8J1113-MSD1	1810011-13
B8J1114	
Liquid	
Samples: 15	ReExts: 0
LAB NUMBER	SOURCE
B8J1114-BLK1	
B8J1114-BS1	
B8J1114-MS1	1810011-26
B8J1114-MSD1	1810011-26



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Developmental GC-NPD Method for Methylene bis(thiocyanate)

P/P GC-NPD - Methylene bis(thiocyanate)

Lab ID: 1810011-01

Station ID: W011010-01

Batch: B8J1113

Date Collected: 10/10/18

Sample Type: Liquid

Sample Vol: 40ml

Sample Qualifiers:

Analyst: LW

Surrogates

Analyte	Result ug/L	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Tributyl phosphate</i>	19.8		106	70-130	10/11/18	10/11/18
<i>Triphenyl phosphate</i>	18.2		97.3	70-130	"	"

Targets

Analyte (CAS Number)	Result ug/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Methylene bis(thiocyanate) (6317-18-6)	U		10.0	1	10/11/18	10/11/18



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Developmental GC-NPD Method for Methylene bis(thiocyanate)

P/P GC-NPD - Methylene bis(thiocyanate)

Lab ID: 1810011-02

Station ID: W011023-01

Batch: B8J1113

Date Collected: 10/10/18

Sample Type: Liquid

Sample Vol: 40ml

Sample Qualifiers:
Analyst: LW

Surrogates

Analyte	Result ug/L	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Tributyl phosphate</i>	19.8		106	70-130	10/11/18	10/11/18
<i>Triphenyl phosphate</i>	18.1		96.3	70-130	"	"

Targets

Analyte (CAS Number)	Result ug/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Methylene bis(thiocyanate) (6317-18-6)	U		10.0	1	10/11/18	10/11/18



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Developmental GC-NPD Method for Methylene bis(thiocyanate)

P/P GC-NPD - Methylene bis(thiocyanate)

Lab ID: 1810011-03

Station ID: W011023-02

Batch: B8J1113

Date Collected: 10/10/18

Sample Type: Liquid

Sample Vol: 40ml

Sample Qualifiers:
Analyst: LW

Surrogates

Analyte	Result ug/L	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Tributyl phosphate</i>	18.3		97.7	70-130	10/11/18	10/11/18
<i>Triphenyl phosphate</i>	17.0		90.6	70-130	"	"

Targets

Analyte (CAS Number)	Result ug/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Methylene bis(thiocyanate) (6317-18-6)	U		10.0	1	10/11/18	10/11/18



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Developmental GC-NPD Method for Methylene bis(thiocyanate)

P/P GC-NPD - Methylene bis(thiocyanate)

Lab ID: 1810011-04

Station ID: W011023-03

Batch: B8J1113

Date Collected: 10/10/18

Sample Type: Liquid

Sample Vol: 40ml

Sample Qualifiers:
Analyst: LW

Surrogates

Analyte	Result ug/L	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Tributyl phosphate</i>	19.4		103	70-130	10/11/18	10/11/18
<i>Triphenyl phosphate</i>	17.2		92.0	70-130	"	"

Targets

Analyte (CAS Number)	Result ug/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Methylene bis(thiocyanate) (6317-18-6)	U		10.0	1	10/11/18	10/11/18



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Developmental GC-NPD Method for Methylene bis(thiocyanate)

P/P GC-NPD - Methylene bis(thiocyanate)

Lab ID: 1810011-05

Station ID: W011013-01

Batch: B8J1113

Date Collected: 10/10/18

Sample Type: Liquid

Sample Vol: 40ml

Sample Qualifiers:
Analyst: LW

Surrogates

Analyte	Result ug/L	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Tributyl phosphate</i>	18.8		100	70-130	10/11/18	10/11/18
<i>Triphenyl phosphate</i>	17.4		93.0	70-130	"	"

Targets

Analyte (CAS Number)	Result ug/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Methylene bis(thiocyanate) (6317-18-6)	U		10.0	1	10/11/18	10/11/18



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Developmental GC-NPD Method for Methylene bis(thiocyanate)

P/P GC-NPD - Methylene bis(thiocyanate)

Lab ID: 1810011-06

Station ID: W011013-02

Batch: B8J1113

Date Collected: 10/10/18

Sample Type: Liquid

Sample Vol: 40ml

Sample Qualifiers:
Analyst: LW

Surrogates

Analyte	Result ug/L	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Tributyl phosphate</i>	17.5		93.3	70-130	10/11/18	10/11/18
<i>Triphenyl phosphate</i>	17.9		95.7	70-130	"	"

Targets

Analyte (CAS Number)	Result ug/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Methylene bis(thiocyanate) (6317-18-6)	U		10.0	1	10/11/18	10/11/18



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Developmental GC-NPD Method for Methylene bis(thiocyanate)

P/P GC-NPD - Methylene bis(thiocyanate)

Lab ID: 1810011-07

Station ID: W011013-03

Batch: B8J1113

Date Collected: 10/10/18

Sample Type: Liquid

Sample Vol: 40ml

Sample Qualifiers:
Analyst: LW

Surrogates

Analyte	Result ug/L	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Tributyl phosphate</i>	19.5		104	70-130	10/11/18	10/11/18
<i>Triphenyl phosphate</i>	17.6		93.7	70-130	"	"

Targets

Analyte (CAS Number)	Result ug/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Methylene bis(thiocyanate) (6317-18-6)	U		10.0	1	10/11/18	10/11/18



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Developmental GC-NPD Method for Methylene bis(thiocyanate)

P/P GC-NPD - Methylene bis(thiocyanate)

Lab ID: 1810011-08

Station ID: W011003-02

Batch: B8J1113

Date Collected: 10/10/18

Sample Type: Liquid

Sample Vol: 40ml

Sample Qualifiers:
Analyst: LW

Surrogates

Analyte	Result ug/L	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Tributyl phosphate</i>	17.9		95.4	70-130	10/11/18	10/11/18
<i>Triphenyl phosphate</i>	17.5		93.5	70-130	"	"

Targets

Analyte (CAS Number)	Result ug/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Methylene bis(thiocyanate) (6317-18-6)	U		10.0	1	10/11/18	10/11/18



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Developmental GC-NPD Method for Methylene bis(thiocyanate)

P/P GC-NPD - Methylene bis(thiocyanate)

Lab ID: 1810011-09

Station ID: W011003-03

Batch: B8J1113

Date Collected: 10/10/18

Sample Type: Liquid

Sample Vol: 40ml

Sample Qualifiers:
Analyst: LW

Surrogates

Analyte	Result ug/L	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Tributyl phosphate</i>	18.6		99.2	70-130	10/11/18	10/11/18
<i>Triphenyl phosphate</i>	17.6		93.6	70-130	"	"

Targets

Analyte (CAS Number)	Result ug/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Methylene bis(thiocyanate) (6317-18-6)	U		10.0	1	10/11/18	10/11/18



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Developmental GC-NPD Method for Methylene bis(thiocyanate)

P/P GC-NPD - Methylene bis(thiocyanate)

Lab ID: 1810011-10

Station ID: W011009-01

Batch: B8J1113

Date Collected: 10/10/18

Sample Type: Liquid

Sample Vol: 40ml

Sample Qualifiers:
Analyst: LW

Surrogates

Analyte	Result ug/L	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Tributyl phosphate</i>	16.8		89.7	70-130	10/11/18	10/11/18
<i>Triphenyl phosphate</i>	16.4		87.2	70-130	"	"

Targets

Analyte (CAS Number)	Result ug/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Methylene bis(thiocyanate) (6317-18-6)	U		10.0	1	10/11/18	10/11/18



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Developmental GC-NPD Method for Methylene bis(thiocyanate)

P/P GC-NPD - Methylene bis(thiocyanate)

Lab ID: 1810011-11

Station ID: W011009-02

Batch: B8J1113

Date Collected: 10/10/18

Sample Type: Liquid

Sample Vol: 40ml

Sample Qualifiers:
Analyst: LW

Surrogates

Analyte	Result ug/L	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Tributyl phosphate</i>	21.6		115	70-130	10/11/18	10/11/18
<i>Triphenyl phosphate</i>	20.1		107	70-130	"	"

Targets

Analyte (CAS Number)	Result ug/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Methylene bis(thiocyanate) (6317-18-6)	U		10.0	1	10/11/18	10/11/18



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Developmental GC-NPD Method for Methylene bis(thiocyanate)

P/P GC-NPD - Methylene bis(thiocyanate)

Lab ID: 1810011-12

Station ID: W011009-03

Batch: B8J1113

Date Collected: 10/10/18

Sample Type: Liquid

Sample Vol: 40ml

Sample Qualifiers:
Analyst: LW

Surrogates

Analyte	Result ug/L	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Tributyl phosphate</i>	19.8		105	70-130	10/11/18	10/11/18
<i>Triphenyl phosphate</i>	18.0		95.7	70-130	"	"

Targets

Analyte (CAS Number)	Result ug/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Methylene bis(thiocyanate) (6317-18-6)	U		10.0	1	10/11/18	10/11/18



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Developmental GC-NPD Method for Methylene bis(thiocyanate)

P/P GC-NPD - Methylene bis(thiocyanate)

Lab ID: 1810011-13

Station ID: W011004-02/03

Batch: B8J1113

Date Collected: 10/10/18

Sample Type: Liquid

Sample Vol: 40ml

Sample Qualifiers:
Analyst: LW

Surrogates

Analyte	Result ug/L	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Tributyl phosphate</i>	16.8		89.7	70-130	10/11/18	10/11/18
<i>Triphenyl phosphate</i>	16.6		88.5	70-130	"	"

Targets

Analyte (CAS Number)	Result ug/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Methylene bis(thiocyanate) (6317-18-6)	U		10.0	1	10/11/18	10/11/18



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Developmental GC-NPD Method for Methylene bis(thiocyanate)

P/P GC-NPD - Methylene bis(thiocyanate)

Lab ID: 1810011-14

Station ID: W011014-01

Batch: B8J1113

Date Collected: 10/10/18

Sample Type: Liquid

Sample Vol: 40ml

Sample Qualifiers:
Analyst: LW

Surrogates

Analyte	Result ug/L	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Tributyl phosphate</i>	19.6		105	70-130	10/11/18	10/11/18
<i>Triphenyl phosphate</i>	17.8		94.8	70-130	"	"

Targets

Analyte (CAS Number)	Result ug/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Methylene bis(thiocyanate) (6317-18-6)	U		10.0	1	10/11/18	10/11/18



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Developmental GC-NPD Method for Methylene bis(thiocyanate)

P/P GC-NPD - Methylene bis(thiocyanate)

Lab ID: 1810011-15

Station ID: W011021-02

Batch: B8J1113

Date Collected: 10/10/18

Sample Type: Liquid

Sample Vol: 40ml

Sample Qualifiers:
Analyst: LW

Surrogates

Analyte	Result ug/L	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Tributyl phosphate</i>	18.4		98.3	70-130	10/11/18	10/11/18
<i>Triphenyl phosphate</i>	17.0		90.7	70-130	"	"

Targets

Analyte (CAS Number)	Result ug/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Methylene bis(thiocyanate) (6317-18-6)	U		10.0	1	10/11/18	10/11/18



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Developmental GC-NPD Method for Methylene bis(thiocyanate)

P/P GC-NPD - Methylene bis(thiocyanate)

Lab ID: 1810011-16

Station ID: W011028-01

Batch: B8J1113

Date Collected: 10/10/18

Sample Type: Liquid

Sample Vol: 40ml

Sample Qualifiers:
Analyst: LW

Surrogates

Analyte	Result ug/L	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Tributyl phosphate</i>	19.2		102	70-130	10/11/18	10/11/18
<i>Triphenyl phosphate</i>	18.3		97.5	70-130	"	"

Targets

Analyte (CAS Number)	Result ug/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Methylene bis(thiocyanate) (6317-18-6)	U		10.0	1	10/11/18	10/11/18



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Developmental GC-NPD Method for Methylene bis(thiocyanate)

P/P GC-NPD - Methylene bis(thiocyanate)

Lab ID: 1810011-17

Station ID: W011028-02

Batch: B8J1113

Date Collected: 10/10/18

Sample Type: Liquid

Sample Vol: 40ml

Sample Qualifiers:
Analyst: LW

Surrogates

Analyte	Result ug/L	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Tributyl phosphate</i>	16.8		89.8	70-130	10/11/18	10/11/18
<i>Triphenyl phosphate</i>	16.6		88.6	70-130	"	"

Targets

Analyte (CAS Number)	Result ug/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Methylene bis(thiocyanate) (6317-18-6)	U		10.0	1	10/11/18	10/11/18



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Developmental GC-NPD Method for Methylene bis(thiocyanate)

P/P GC-NPD - Methylene bis(thiocyanate)

Lab ID: 1810011-18

Station ID: W011028-03

Batch: B8J1113

Date Collected: 10/10/18

Sample Type: Liquid

Sample Vol: 40ml

Sample Qualifiers:
Analyst: LW

Surrogates

Analyte	Result ug/L	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Tributyl phosphate</i>	18.0		95.8	70-130	10/11/18	10/11/18
<i>Triphenyl phosphate</i>	17.3		92.3	70-130	"	"

Targets

Analyte (CAS Number)	Result ug/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Methylene bis(thiocyanate) (6317-18-6)	U		10.0	1	10/11/18	10/11/18



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Developmental GC-NPD Method for Methylene bis(thiocyanate)

P/P GC-NPD - Methylene bis(thiocyanate)

Lab ID: 1810011-19

Station ID: W011003-01

Batch: B8J1113

Date Collected: 10/10/18

Sample Type: Liquid

Sample Vol: 40ml

Sample Qualifiers:
Analyst: LW

Surrogates

Analyte	Result ug/L	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Tributyl phosphate</i>	21.5		115	70-130	10/11/18	10/11/18
<i>Triphenyl phosphate</i>	20.0		107	70-130	"	"

Targets

Analyte (CAS Number)	Result ug/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Methylene bis(thiocyanate) (6317-18-6)	U		10.0	1	10/11/18	10/11/18



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Developmental GC-NPD Method for Methylene bis(thiocyanate)

P/P GC-NPD - Methylene bis(thiocyanate)

Lab ID: 1810011-20

Station ID: W011004-01

Batch: B8J1113

Date Collected: 10/10/18

Sample Type: Liquid

Sample Vol: 40ml

Sample Qualifiers:
Analyst: LW

Surrogates

Analyte	Result ug/L	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Tributyl phosphate</i>	19.5		104	70-130	10/11/18	10/11/18
<i>Triphenyl phosphate</i>	18.2		97.2	70-130	"	"

Targets

Analyte (CAS Number)	Result ug/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Methylene bis(thiocyanate) (6317-18-6)	U		10.0	1	10/11/18	10/11/18



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Developmental GC-NPD Method for Methylene bis(thiocyanate)

P/P GC-NPD - Methylene bis(thiocyanate)

Lab ID: 1810011-21

Station ID: W011014-02

Batch: B8J1114

Date Collected: 10/10/18

Sample Type: Liquid

Sample Vol: 40ml

Sample Qualifiers:
Analyst: LW

Surrogates

Analyte	Result ug/L	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Tributyl phosphate</i>	18.6		99.2	70-130	10/11/18	10/11/18
<i>Triphenyl phosphate</i>	18.2		96.9	70-130	"	"

Targets

Analyte (CAS Number)	Result ug/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Methylene bis(thiocyanate) (6317-18-6)	U		10.0	1	10/11/18	10/11/18



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Developmental GC-NPD Method for Methylene bis(thiocyanate)

P/P GC-NPD - Methylene bis(thiocyanate)

Lab ID: 1810011-22

Station ID: W011021-01

Batch: B8J1114

Date Collected: 10/10/18

Sample Type: Liquid

Sample Vol: 40ml

Sample Qualifiers:
Analyst: LW

Surrogates

Analyte	Result ug/L	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Tributyl phosphate</i>	21.5		115	70-130	10/11/18	10/11/18
<i>Triphenyl phosphate</i>	19.7		105	70-130	"	"

Targets

Analyte (CAS Number)	Result ug/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Methylene bis(thiocyanate) (6317-18-6)	U		10.0	1	10/11/18	10/11/18



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Developmental GC-NPD Method for Methylene bis(thiocyanate)

P/P GC-NPD - Methylene bis(thiocyanate)

Lab ID: 1810011-23

Station ID: W011021-03

Batch: B8J1114

Date Collected: 10/10/18

Sample Type: Liquid

Sample Vol: 40ml

Sample Qualifiers:
Analyst: LW

Surrogates

Analyte	Result ug/L	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Tributyl phosphate</i>	20.1		107	70-130	10/11/18	10/11/18
<i>Triphenyl phosphate</i>	18.9		101	70-130	"	"

Targets

Analyte (CAS Number)	Result ug/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Methylene bis(thiocyanate) (6317-18-6)	U		10.0	1	10/11/18	10/11/18



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Developmental GC-NPD Method for Methylene bis(thiocyanate)

P/P GC-NPD - Methylene bis(thiocyanate)

Lab ID: 1810011-24

Station ID: W011017-01

Batch: B8J1114

Date Collected: 10/10/18

Sample Type: Liquid

Sample Vol: 40ml

Sample Qualifiers:
Analyst: LW

Surrogates

Analyte	Result ug/L	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Tributyl phosphate</i>	20.4		109	70-130	10/11/18	10/11/18
<i>Triphenyl phosphate</i>	18.9		101	70-130	"	"

Targets

Analyte (CAS Number)	Result ug/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Methylene bis(thiocyanate) (6317-18-6)	U		10.0	1	10/11/18	10/11/18



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Developmental GC-NPD Method for Methylene bis(thiocyanate)

P/P GC-NPD - Methylene bis(thiocyanate)

Lab ID: 1810011-25

Station ID: W011017-02

Batch: B8J1114

Date Collected: 10/10/18

Sample Type: Liquid

Sample Vol: 40ml

Sample Qualifiers:
Analyst: LW

Surrogates

Analyte	Result ug/L	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Tributyl phosphate</i>	17.6		93.8	70-130	10/11/18	10/11/18
<i>Triphenyl phosphate</i>	16.8		89.8	70-130	"	"

Targets

Analyte (CAS Number)	Result ug/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Methylene bis(thiocyanate) (6317-18-6)	U		10.0	1	10/11/18	10/11/18



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Developmental GC-NPD Method for Methylene bis(thiocyanate)

P/P GC-NPD - Methylene bis(thiocyanate)

Lab ID: 1810011-26

Station ID: W011019-01

Batch: B8J1114

Date Collected: 10/10/18

Sample Type: Liquid

Sample Vol: 40ml

Sample Qualifiers:
Analyst: LW

Surrogates

Analyte	Result ug/L	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Tributyl phosphate</i>	18.4		98.0	70-130	10/11/18	10/11/18
<i>Triphenyl phosphate</i>	18.0		96.1	70-130	"	"

Targets

Analyte (CAS Number)	Result ug/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Methylene bis(thiocyanate) (6317-18-6)	U		10.0	1	10/11/18	10/11/18



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Developmental GC-NPD Method for Methylene bis(thiocyanate)

P/P GC-NPD - Methylene bis(thiocyanate)

Lab ID: 1810011-27

Station ID: W011019-02

Batch: B8J1114

Date Collected: 10/10/18

Sample Type: Liquid

Sample Vol: 40ml

Sample Qualifiers:
Analyst: LW

Surrogates

Analyte	Result ug/L	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Tributyl phosphate</i>	18.3		97.5	70-130	10/11/18	10/11/18
<i>Triphenyl phosphate</i>	17.4		93.0	70-130	"	"

Targets

Analyte (CAS Number)	Result ug/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Methylene bis(thiocyanate) (6317-18-6)	U		10.0	1	10/11/18	10/11/18



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Developmental GC-NPD Method for Methylene bis(thiocyanate)

P/P GC-NPD - Methylene bis(thiocyanate)

Lab ID: 1810011-28

Station ID: W011007-01

Batch: B8J1114

Date Collected: 10/10/18

Sample Type: Liquid

Sample Vol: 40ml

Sample Qualifiers:
Analyst: LW

Surrogates

Analyte	Result ug/L	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Tributyl phosphate</i>	20.2		108	70-130	10/11/18	10/11/18
<i>Triphenyl phosphate</i>	19.1		102	70-130	"	"

Targets

Analyte (CAS Number)	Result ug/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Methylene bis(thiocyanate) (6317-18-6)	U		10.0	1	10/11/18	10/11/18



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Developmental GC-NPD Method for Methylene bis(thiocyanate)

P/P GC-NPD - Methylene bis(thiocyanate)

Lab ID: 1810011-29

Station ID: W011007-02

Batch: B8J1114

Date Collected: 10/10/18

Sample Type: Liquid

Sample Vol: 40ml

Sample Qualifiers:
Analyst: LW

Surrogates

Analyte	Result ug/L	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Tributyl phosphate</i>	19.8		106	70-130	10/11/18	10/11/18
<i>Triphenyl phosphate</i>	18.4		98.3	70-130	"	"

Targets

Analyte (CAS Number)	Result ug/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Methylene bis(thiocyanate) (6317-18-6)	U		10.0	1	10/11/18	10/11/18



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Developmental GC-NPD Method for Methylene bis(thiocyanate)

P/P GC-NPD - Methylene bis(thiocyanate)

Lab ID: 1810011-30

Station ID: W011007-03

Batch: B8J1114

Date Collected: 10/10/18

Sample Type: Liquid

Sample Vol: 40ml

Sample Qualifiers:
Analyst: LW

Surrogates

Analyte	Result ug/L	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Tributyl phosphate</i>	23.0		123	70-130	10/11/18	10/11/18
<i>Triphenyl phosphate</i>	20.3		108	70-130	"	"

Targets

Analyte (CAS Number)	Result ug/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Methylene bis(thiocyanate) (6317-18-6)	U		10.0	1	10/11/18	10/11/18



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Developmental GC-NPD Method for Methylene bis(thiocyanate)

P/P GC-NPD - Methylene bis(thiocyanate)

Lab ID: 1810011-31

Station ID: W011005-01

Batch: B8J1114

Date Collected: 10/10/18

Sample Type: Liquid

Sample Vol: 40ml

Sample Qualifiers:
Analyst: LW

Surrogates

Analyte	Result ug/L	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Tributyl phosphate</i>	19.0		101	70-130	10/11/18	10/11/18
<i>Triphenyl phosphate</i>	17.9		95.7	70-130	"	"

Targets

Analyte (CAS Number)	Result ug/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Methylene bis(thiocyanate) (6317-18-6)	U		10.0	1	10/11/18	10/11/18



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Developmental GC-NPD Method for Methylene bis(thiocyanate)

P/P GC-NPD - Methylene bis(thiocyanate)

Lab ID: 1810011-32

Station ID: W011005-02

Batch: B8J1114

Date Collected: 10/10/18

Sample Type: Liquid

Sample Vol: 40ml

Sample Qualifiers:
Analyst: LW

Surrogates

Analyte	Result ug/L	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Tributyl phosphate</i>	18.4		98.0	70-130	10/11/18	10/11/18
<i>Triphenyl phosphate</i>	18.4		97.9	70-130	"	"

Targets

Analyte (CAS Number)	Result ug/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Methylene bis(thiocyanate) (6317-18-6)	U		10.0	1	10/11/18	10/11/18



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Developmental GC-NPD Method for Methylene bis(thiocyanate)

P/P GC-NPD - Methylene bis(thiocyanate)

Lab ID: 1810011-33

Station ID: W011022-01

Batch: B8J1114

Date Collected: 10/10/18

Sample Type: Liquid

Sample Vol: 40ml

Sample Qualifiers:
Analyst: LW

Surrogates

Analyte	Result ug/L	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Tributyl phosphate</i>	19.6		105	70-130	10/11/18	10/11/18
<i>Triphenyl phosphate</i>	17.7		94.4	70-130	"	"

Targets

Analyte (CAS Number)	Result ug/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Methylene bis(thiocyanate) (6317-18-6)	U		10.0	1	10/11/18	10/11/18



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Developmental GC-NPD Method for Methylene bis(thiocyanate)

P/P GC-NPD - Methylene bis(thiocyanate)

Lab ID: 1810011-34

Station ID: W011022-02

Batch: B8J1114

Date Collected: 10/10/18

Sample Type: Liquid

Sample Vol: 40ml

Sample Qualifiers:
Analyst: LW

Surrogates

Analyte	Result ug/L	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Tributyl phosphate</i>	18.5		98.5	70-130	10/11/18	10/11/18
<i>Triphenyl phosphate</i>	17.6		94.1	70-130	"	"

Targets

Analyte (CAS Number)	Result ug/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Methylene bis(thiocyanate) (6317-18-6)	U		10.0	1	10/11/18	10/11/18



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Developmental GC-NPD Method for Methylene bis(thiocyanate)

P/P GC-NPD - Methylene bis(thiocyanate)

Lab ID: 1810011-35

Station ID: W011022-03

Batch: B8J1114

Date Collected: 10/10/18

Sample Type: Liquid

Sample Vol: 40ml

Sample Qualifiers:
Analyst: LW

Surrogates

Analyte	Result ug/L	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Tributyl phosphate</i>	19.1		102	70-130	10/11/18	10/11/18
<i>Triphenyl phosphate</i>	18.1		96.7	70-130	"	"

Targets

Analyte (CAS Number)	Result ug/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Methylene bis(thiocyanate) (6317-18-6)	U		10.0	1	10/11/18	10/11/18

LW



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Developmental GC-NPD Method for Methylene bis(thiocyanate) - Quality Control

Batch: B8J1113

Sample Type: Liquid

Blank (B8J1113-BLK1)

Prepared: 10/11/2018 Analyzed: 10/11/2018

Surrogates

ANALYTE	Result ug/L	Analyte Qualifier	Spike Level	%REC	%REC Limits
<i>Tributyl phosphate</i>	17.2		18.8	91.6	70-130
<i>Triphenyl phosphate</i>	16.5		18.8	88.0	70-130

Targets

ANALYTE	Result ug/L	Analyte Qualifiers	Reporting Limit
Methylene bis(thiocyanate)	U		10.0



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Developmental GC-NPD Method for Methylene bis(thiocyanate) - Quality Control

Batch: B8J1113

Sample Type: Liquid

LCS (B8J1113-BS1)

Prepared: 10/11/2018 Analyzed: 10/11/2018

Surrogates

ANALYTE	Result ug/L	Analyte Qualifier	Spike Level	%REC	%REC Limits
<i>Tributyl phosphate</i>	17.4		18.8	93.0	70-130
<i>Triphenyl phosphate</i>	16.2		18.8	86.3	70-130

Targets

ANALYTE	Result ug/L	Analyte Qualifiers	Reporting Limit	Spike Level	%REC	%REC Limits
Methylene bis(thiocyanate)	9.88		10.0	10.0	98.8	70-130



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Developmental GC-NPD Method for Methylene bis(thiocyanate) - Quality Control

Batch: B8J1113

Sample Type: Liquid

Matrix Spike (B8J1113-MS1)

Source: 1810011-13

Prepared: 10/11/2018 Analyzed: 10/11/2018

Surrogates

ANALYTE	Result ug/L	Analyte Qualifier	Spike Level	%REC	%REC Limits
<i>Tributyl phosphate</i>	17.6		18.8	93.8	70-130
<i>Triphenyl phosphate</i>	16.4		18.8	87.5	70-130

Targets

ANALYTE	Result ug/L	Analyte Qualifiers	Reporting Limit	Spike Level	Source Result	%REC	%REC Limits
Methylene bis(thiocyanate)	9.90		10.0	10.0		99.0	70-130



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Developmental GC-NPD Method for Methylene bis(thiocyanate) - Quality Control

Batch: B8J1113

Sample Type: Liquid

Matrix Spike Dup (B8J1113-MSD1)

Source: 1810011-13

Prepared: 10/11/2018 Analyzed: 10/11/2018

Surrogates

ANALYTE	Result ug/L	Analyte Qualifier	Spike Level	%REC	%REC Limits
<i>Tributyl phosphate</i>	18.5		18.8	98.7	70-130
<i>Triphenyl phosphate</i>	17.4		18.8	93.0	70-130

Targets

ANALYTE	Result ug/L	Analyte Qualifiers	Reporting Limit	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Methylene bis(thiocyanate)	10.7		10.0	10.0		107	70-130	7.61	30

Batch: B8J1114

Sample Type: Liquid



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Developmental GC-NPD Method for Methylene bis(thiocyanate) - Quality Control

Batch: B8J1114

Sample Type: Liquid

Blank (B8J1114-BLK1)

Prepared: 10/11/2018 Analyzed: 10/11/2018

Surrogates

ANALYTE	Result ug/L	Analyte Qualifier	Spike Level	%REC	%REC Limits
<i>Tributyl phosphate</i>	19.4		18.8	103	70-130
<i>Triphenyl phosphate</i>	18.4		18.8	98.0	70-130

Targets

ANALYTE	Result ug/L	Analyte Qualifiers	Reporting Limit
Methylene bis(thiocyanate)	U		10.0



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Developmental GC-NPD Method for Methylene bis(thiocyanate) - Quality Control

Batch: B8J1114

Sample Type: Liquid

LCS (B8J1114-BS1)

Prepared: 10/11/2018 Analyzed: 10/11/2018

Surrogates

ANALYTE	Result ug/L	Analyte Qualifier	Spike Level	%REC	%REC Limits
<i>Tributyl phosphate</i>	20.6		18.8	110	70-130
<i>Triphenyl phosphate</i>	19.3		18.8	103	70-130

Targets

ANALYTE	Result ug/L	Analyte Qualifiers	Reporting Limit	Spike Level	%REC	%REC Limits
Methylene bis(thiocyanate)	12.6		10.0	10.0	126	70-130



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Developmental GC-NPD Method for Methylene bis(thiocyanate) - Quality Control

Batch: B8J1114

Sample Type: Liquid

Matrix Spike (B8J1114-MS1)

Source: 1810011-26

Prepared: 10/11/2018 Analyzed: 10/11/2018

Surrogates

ANALYTE	Result ug/L	Analyte Qualifier	Spike Level	%REC	%REC Limits
<i>Tributyl phosphate</i>	21.2		18.8	113	70-130
<i>Triphenyl phosphate</i>	19.9		18.8	106	70-130

Targets

ANALYTE	Result ug/L	Analyte Qualifiers	Reporting Limit	Spike Level	Source Result	%REC	%REC Limits
Methylene bis(thiocyanate)	13.9		10.0	10.0		139 #	70-130



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Developmental GC-NPD Method for Methylene bis(thiocyanate) - Quality Control

Batch: B8J1114

Sample Type: Liquid

Matrix Spike Dup (B8J1114-MSD1)

Source: 1810011-26

Prepared: 10/11/2018 Analyzed: 10/11/2018

Surrogates

ANALYTE	Result ug/L	Analyte Qualifier	Spike Level	%REC	%REC Limits
<i>Tributyl phosphate</i>	22.1		18.8	118	70-130
<i>Triphenyl phosphate</i>	20.3		18.8	109	70-130

Targets

ANALYTE	Result ug/L	Analyte Qualifiers	Reporting Limit	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Methylene bis(thiocyanate)	14.3		10.0	10.0		143 #	70-130	2.60	30



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SURROGATE SUMMARY REPORT

P/P GC-NPD - Methylene bis(thiocyanate)

Liquid

LAB NUMBER	TBP	TPP
1810011-01	106	97.3
1810011-02	106	96.3
1810011-03	97.7	90.6
1810011-04	103	92.0
1810011-05	100	93.0
1810011-06	93.3	95.7
1810011-07	104	93.7
1810011-08	95.4	93.5
1810011-09	99.2	93.6
1810011-10	89.7	87.2
1810011-11	115	107
1810011-12	105	95.7
1810011-13	89.7	88.5
1810011-14	105	94.8
1810011-15	98.3	90.7
1810011-16	102	97.5
1810011-17	89.8	88.6
1810011-18	95.8	92.3
1810011-19	115	107
1810011-20	104	97.2
1810011-21	99.2	96.9
1810011-22	115	105
1810011-23	107	101
1810011-24	109	101
1810011-25	93.8	89.8
1810011-26	98.0	96.1
1810011-27	97.5	93.0
1810011-28	108	102
1810011-29	106	98.3
1810011-30	123	108
1810011-31	101	95.7
1810011-32	98.0	97.9
1810011-33	105	94.4
1810011-34	98.5	94.1
1810011-35	102	96.7
B8J1113-BLK1	91.6	88.0



Environmental Protection Agency

Region 6 Laboratory

10625 Fallstone Road, Houston, TX 77099
Phone: (281) 983-2100 Fax: (281) 983-2248

SURROGATE SUMMARY REPORT

P/P GC-NPD - Methylene bis(thiocyanate)

Liquid

LAB NUMBER	TBP	TPP
B8J1113-BS1	93.0	86.3
B8J1113-MS1	93.8	87.5
B8J1113-MSD1	98.7	93.0
B8J1114-BLK1	103	98.0
B8J1114-BS1	110	103
B8J1114-MS1	113	106
B8J1114-MSD1	118	109

QC LIMITS

TBP = Tributyl phosphate
TPP = Triphenyl phosphate

70 - 130
70 - 130



Environmental Protection Agency
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LIMS Reviewer Auto Checklist

BATCH B8J1113

P/P GC-NPD - Methylene bis(thiocyanate)

Quality Control

	<u>Compliance</u>	<u>Date</u>	
Samples prepared within Holding Times?	YES	10/12/2018	DSH
Surrogates recoveries pass criteria?	YES	10/12/2018	DSH
RLs present for all target compounds?	YES	10/12/2018	DSH
Dry weights performed on solids?	NA	10/12/2018	DSH

Blanks

	<u>Compliance</u>	<u>Date</u>	
Correct number of BLKs?	YES	10/12/2018	DSH

Blank Spikes

	<u>Compliance</u>	<u>Date</u>	
Correct number of LFB/LCSs?	YES	10/12/2018	DSH
Blank Spike recoveries pass criteria?	YES	10/12/2018	DSH
All spike compounds reported in the BS?	YES	10/12/2018	DSH
Blank Spikes taken through entire extraction/digestion process?	YES	10/12/2018	DSH

Matrix Spikes

	<u>Compliance</u>	<u>Date</u>	
Correct number of MS/MSDs?	YES	10/12/2018	DSH
Matrix Spike recoveries pass criteria?	YES	10/12/2018	DSH
Matrix Spike RPDs pass criteria?	YES	10/12/2018	DSH
All spike compounds present in the MS?	YES	10/12/2018	DSH
MS/MSDs taken through entire extraction/digestion process?	YES	10/12/2018	DSH

Duplicates

	<u>Compliance</u>	<u>Date</u>	
Correct number of DUPs?	YES	10/12/2018	DSH
Dup RPDs pass Criteria?	NA	10/12/2018	DSH

SRM

	<u>Compliance</u>	<u>Date</u>	
SRMs pass criteria?	NA	10/12/2018	DSH



Environmental Protection Agency
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Phone: (281) 983-2100 Fax: (281) 983-2248

LIMS Reviewer Auto Checklist

BATCH B8J1114

P/P GC-NPD - Methylene bis(thiocyanate)

Quality Control

	<u>Compliance</u>	<u>Date</u>	
Samples prepared within Holding Times?	YES	10/12/2018	DSH
Surrogates recoveries pass criteria?	YES	10/12/2018	DSH
RLs present for all target compounds?	YES	10/12/2018	DSH
Dry weights performed on solids?	NA	10/12/2018	DSH

Blanks

	<u>Compliance</u>	<u>Date</u>	
Correct number of BLKs?	YES	10/12/2018	DSH

Blank Spikes

	<u>Compliance</u>	<u>Date</u>	
Correct number of LFB/LCSs?	YES	10/12/2018	DSH
Blank Spike recoveries pass criteria?	YES	10/12/2018	DSH
All spike compounds reported in the BS?	YES	10/12/2018	DSH
Blank Spikes taken through entire extraction/digestion process?	YES	10/12/2018	DSH

Matrix Spikes

	<u>Compliance</u>	<u>Date</u>	
Correct number of MS/MSDs?	YES	10/12/2018	DSH
Matrix Spike recoveries pass criteria?	NO	10/12/2018	DSH
<i>-Matrix Spike Recovery for Methylene bis(thiocyanate) (135%) was outside acceptance limits (70-130) in B8J1114-MSD1 for P/P 8141- Methylene bis(thiocyanate)</i>			
Matrix Spike RPDs pass criteria?	YES	10/12/2018	DSH
All spike compounds present in the MS?	YES	10/12/2018	DSH
MS/MSDs taken through entire extraction/digestion process?	YES	10/12/2018	DSH

Duplicates

	<u>Compliance</u>	<u>Date</u>	
Correct number of DUPs?	YES	10/12/2018	DSH
Dup RPDs pass Criteria?	NA	10/12/2018	DSH

SRM

	<u>Compliance</u>	<u>Date</u>	
SRMs pass criteria?	NA	10/12/2018	DSH



Environmental Protection Agency
Region 6 Laboratory

10625 Fallstone Road, Houston, TX 77099
Phone:(281)983-2100 Fax:(281)983-2248

DATA FILE SUMMARY

<u>LabNumber</u>	<u>SampleName</u>	<u>Dilution</u>	<u>File ID</u>	<u>Analyzed</u>
1810011-01	W011010-01	1	GC9-5518.D	10/11/18 13:43
1810011-02	W011023-01	1	GC9-5519.D	10/11/18 13:56
1810011-03	W011023-02	1	GC9-5520.D	10/11/18 14:09
1810011-04	W011023-03	1	GC9-5521.D	10/11/18 14:22
1810011-05	W011013-01	1	GC9-5522.D	10/11/18 14:36
1810011-06	W011013-02	1	GC9-5525.D	10/11/18 15:15
1810011-07	W011013-03	1	GC9-5526.D	10/11/18 15:28
1810011-08	W011003-02	1	GC9-5527.D	10/11/18 15:41
1810011-09	W011003-03	1	GC9-5528.D	10/11/18 15:54
1810011-10	W011009-01	1	GC9-5529.D	10/11/18 16:08
1810011-11	W011009-02	1	GC9-5530.D	10/11/18 16:21
1810011-12	W011009-03	1	GC9-5531.D	10/11/18 16:34
1810011-13	W011004-02/03	1	GC9-5515.D	10/11/18 13:04
1810011-14	W011014-01	1	GC9-5532.D	10/11/18 16:47
1810011-15	W011021-02	1	GC9-5533.D	10/11/18 17:00
1810011-16	W011028-01	1	GC9-5534.D	10/11/18 17:13
1810011-17	W011028-02	1	GC9-5537.D	10/11/18 17:53
1810011-18	W011028-03	1	GC9-5538.D	10/11/18 18:06
1810011-19	W011003-01	1	GC9-5539.D	10/11/18 18:19
1810011-20	W011004-01	1	GC9-5540.D	10/11/18 18:32
1810011-21	W011014-02	1	GC9-5546.D	10/11/18 19:51
1810011-22	W011021-01	1	GC9-5549.D	10/11/18 20:31
1810011-23	W011021-03	1	GC9-5550.D	10/11/18 20:44
1810011-24	W011017-01	1	GC9-5551.D	10/11/18 20:57



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1810011-25	W011017-02	1	GC9-5552.D	10/11/18 21:10
1810011-26	W011019-01	1	GC9-5543.D	10/11/18 19:12
1810011-27	W011019-02	1	GC9-5553.D	10/11/18 21:23
1810011-28	W011007-01	1	GC9-5554.D	10/11/18 21:36
1810011-29	W011007-02	1	GC9-5555.D	10/11/18 21:50
1810011-30	W011007-03	1	GC9-5556.D	10/11/18 22:03
1810011-31	W011005-01	1	GC9-5557.D	10/11/18 22:16
1810011-32	W011005-02	1	GC9-5558.D	10/11/18 22:29
1810011-33	W011022-01	1	GC9-5561.D	10/11/18 23:08
1810011-34	W011022-02	1	GC9-5562.D	10/11/18 23:22
1810011-35	W011022-03	1	GC9-5563.D	10/11/18 23:35



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Qualifiers

A	This sample was extracted at a single acid pH.
HTS	Sample was prepared and/or analyzed past recommended holding time. Concentrations should be considered minimum values.
U	The analyte was not detected at or above the reporting limit.

Abbreviations and Symbols

ABN	Acid Base Neutrals (Semivolatile Compounds)
AES	Atomic Emission Spectrometer
BS	Blank Spike
CVAA	Cold Vapor Atomic Absorption
DCB	Decachlorobiphenyl
ECD	Electron Capture Detector
GC	Gas Chromatograph
ICP	Inductively Coupled Plasma
ISTD	Internal Standard
LCS	Laboratory Control Sample
MS	Mass Spectrometer
MS/MSD	Matrix Spike/Matrix Spike Duplicate
NA	Not Applicable
NPD	Nitrogen Phosphorous Detector
NR	Not Reported
PCB	Polychlorinatedbiphenyl
RL	Reporting Limit
RT	Retention Time
RPD	Relative Percent Difference



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TCLP Toxicity Characteristic Leaching Procedure

TCMX Tetrachloro-meta-xylene

VOA Volatile Organic Analysis

Out of QC limits

>LR The result was greater than the linear range.

Initial pressure in air analyses is the pressure at which the canister was received in psia (pounds *per* square inch absolute pressure).

The pH reported for Volatile liquid samples was tested using a 0-14 pH indicator strip for the purpose of verifying chemical preservation.

The statistical software used for the reporting of toxicity data is ToxCale 5.0.32, Environmental Toxicity Data Analysis System 1994-2007 Tidepool Scientific Software.



Environmental Protection Agency
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Phone:(281)983-2100 Fax:(281)983-2248

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
B8J1114-MS1	P/P GC-NPD - Methylene bis	Methylene bis(thiocyanate)	Exceeds upper control limit
B8J1114-MSD1	P/P GC-NPD - Methylene bis	Methylene bis(thiocyanate)	Exceeds upper control limit



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Sample, Log and Extraction Comments

1810011-01

P/P GC-NPD - Methylene bis(thiocyanate)

dbabackup set to reviewed for D Reese - working remotely.

1810011-02

P/P GC-NPD - Methylene bis(thiocyanate)

dbabackup set to reviewed for D Reese - working remotely.

1810011-03

P/P GC-NPD - Methylene bis(thiocyanate)

dbabackup set to reviewed for D Reese - working remotely.

1810011-04

P/P GC-NPD - Methylene bis(thiocyanate)

dbabackup set to reviewed for D Reese - working remotely.

1810011-05

P/P GC-NPD - Methylene bis(thiocyanate)

dbabackup set to reviewed for D Reese - working remotely.

1810011-06

P/P GC-NPD - Methylene bis(thiocyanate)

dbabackup set to reviewed for D Reese - working remotely.

1810011-07

P/P GC-NPD - Methylene bis(thiocyanate)

dbabackup set to reviewed for D Reese - working remotely.

1810011-08

P/P GC-NPD - Methylene bis(thiocyanate)

dbabackup set to reviewed for D Reese - working remotely.

1810011-09

P/P GC-NPD - Methylene bis(thiocyanate)

dbabackup set to reviewed for D Reese - working remotely.

1810011-10

P/P GC-NPD - Methylene bis(thiocyanate)

dbabackup set to reviewed for D Reese - working remotely.

1810011-11

P/P GC-NPD - Methylene bis(thiocyanate)

dbabackup set to reviewed for D Reese - working remotely.

1810011-12

P/P GC-NPD - Methylene bis(thiocyanate)

dbabackup set to reviewed for D Reese - working remotely.

1810011-13

P/P GC-NPD - Methylene bis(thiocyanate)

EXTRA VOLUME FOR MS/MSD

dbabackup set to reviewed for D Reese - working remotely.

1810011-14

P/P GC-NPD - Methylene bis(thiocyanate)

dbabackup set to reviewed for D Reese - working remotely.



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1810011-15

P/P GC-NPD - Methylene bis(thiocyanate)

dbabackup set to reviewed for D Reese - working remotely.

1810011-16

P/P GC-NPD - Methylene bis(thiocyanate)

dbabackup set to reviewed for D Reese - working remotely.

1810011-17

P/P GC-NPD - Methylene bis(thiocyanate)

dbabackup set to reviewed for D Reese - working remotely.

1810011-18

P/P GC-NPD - Methylene bis(thiocyanate)

dbabackup set to reviewed for D Reese - working remotely.

1810011-19

P/P GC-NPD - Methylene bis(thiocyanate)

dbabackup set to reviewed for D Reese - working remotely.

1810011-20

P/P GC-NPD - Methylene bis(thiocyanate)

dbabackup set to reviewed for D Reese - working remotely.

1810011-21

P/P GC-NPD - Methylene bis(thiocyanate)

dbabackup set to reviewed for D Reese - working remotely.

1810011-22

P/P GC-NPD - Methylene bis(thiocyanate)

dbabackup set to reviewed for D Reese - working remotely.

1810011-23

P/P GC-NPD - Methylene bis(thiocyanate)

dbabackup set to reviewed for D Reese - working remotely.

1810011-24

P/P GC-NPD - Methylene bis(thiocyanate)

dbabackup set to reviewed for D Reese - working remotely.

1810011-25

P/P GC-NPD - Methylene bis(thiocyanate)

dbabackup set to reviewed for D Reese - working remotely.

1810011-26

P/P GC-NPD - Methylene bis(thiocyanate)

EXTRA VOLUME FOR MS/MSD

dbabackup set to reviewed for D Reese - working remotely.

1810011-27

P/P GC-NPD - Methylene bis(thiocyanate)

dbabackup set to reviewed for D Reese - working remotely.

1810011-28

P/P GC-NPD - Methylene bis(thiocyanate)

dbabackup set to reviewed for D Reese - working remotely.

1810011-29

P/P GC-NPD - Methylene bis(thiocyanate)

dbabackup set to reviewed for D Reese - working remotely.



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Region 6 Laboratory

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1810011-30

P/P GC-NPD - Methylene bis(thiocyanate)

dbabackup set to reviewed for D Reese - working remotely.

1810011-31

P/P GC-NPD - Methylene bis(thiocyanate)

dbabackup set to reviewed for D Reese - working remotely.

1810011-32

P/P GC-NPD - Methylene bis(thiocyanate)

dbabackup set to reviewed for D Reese - working remotely.

1810011-33

P/P GC-NPD - Methylene bis(thiocyanate)

dbabackup set to reviewed for D Reese - working remotely.

1810011-34

P/P GC-NPD - Methylene bis(thiocyanate)

dbabackup set to reviewed for D Reese - working remotely.

1810011-35

P/P GC-NPD - Methylene bis(thiocyanate)

dbabackup set to reviewed for D Reese - working remotely.

Chain of Custody Record

W 011010



Send to:

Houston Laboratory
Phone: 281-457-5229

Celia Johnson

Region: 5

Organization #: 0

PCA Code:

Program:

Sampler Name: Celia E. Fisher

(print)

Sampler Signature: Celia E. Fisher

Sampler phone number:

E-Mail ID:

LAB USE ONLY

Sample ID	Sampling		Comp	Grab	Matrix L = Liquid S = Solid	No. of Containers	Containers Preservatives*		Analysis Requested	BOD	CBOD	TSS	NH ₃ -N	E. Coli	MBT	MBT	Remarks
	Date	Time															
-01	10/10/08	2:15p				2											WIS CP 1530 Lacking
-02																	
-03																	
-04																	
-05																	
-06																	
-07																	
-08																	

RELINQUISHED BY

DATE TIME

RECEIVED BY

DATE TIME

FOR LAB USE ONLY

Received on ice:

Temperature: 3 °C

Preserved:

COC Seal:

Seals Intact:

X Y ☐ NX Y ☐ NX Y ☐ NX Y ☐ NX Y ☐ NCelia Fisher
Robert Kim
Henry M. Price
Shipper Name:10/10/08 3:00p
10/10/08 17:00
10/10/08 19:45Robert Kim
Henry M. Price
Shipper Number:10/10/08 3:00p
10/10/08 17:00
10/10/08 19:45

*Containers:

P = Plastic

G = Clear Glass

A = Amber Glass

V = VOA Vials

O = Other

**Preservatives:

1 = Ice

2 = H₂SO₄

3 = HCl

4 = HNO₃5 = Na₂S₂O₃

6 = Other

N/A

TCEQ-20649 (Rev. 8/13)

White (Original) - Lab

Yellow - Lab

Pink - Collector Copy

Chain of Custody Record

W 011023



Send to:
☐ Houston Laboratory
Phone: 281-457-5229
☒ EPA (H035700)
LAB

Region: 5 Organization #: PCA Code:
Sampler Name: William Rieder (print) Sampler Signature: [Signature]
Sampler phone number: E-Mail ID:

Program: FW3

LAB USE ONLY

Sample ID	Sampling		Comp	Grab	Matrix <small>L = Liquid S = Solid</small>	No. of Containers	Containers*		Analyses Requested	Preservatives**		BOD	CBOD	TSS	NH ₃ -N	E. Coli	MBT	MBT	Remarks
	Date	Time					1	2		1	2								
-01	10/10	1325	✓	L	2														HB
-02	10/10	1345	✓	L	2														HB
-03	10/10	1405	✓	L	2														GUINN GREENHOUSE TAP
-04																			
-05																			
-06																			
-07																			
-08																			

REQUISITIONED BY

DATE TIME

RECEIVED BY

DATE TIME

FOR LAB USE ONLY

Received on Ice: ☒ Y ☐ NTemperature: 2 °CPreserved: ☒ Y ☐ NCOD Seal: ☒ Y ☐ NSeals intact: ☒ Y ☐ NShipper Name: William RiederShipper Number:

Containers: P = Plastic G = Clear Glass A = Amber Glass V = VOA Vials O = Other

Preservatives: 1 = Ice 2 = H₂SO₄ 3 = HCl 4 = HNO₃ 5 = Na₂SO₃ 6 = Other Na₂SO₃

Chain of Custody Record

W 011013



Send to:
☐ Houston Laboratory
Phone: 281-457-5229
☒ CFA Houston
LAB

Region: 5 Organization #: QMAC Fisher PCA Code: BMS Program: BMS
Sampler Name: QMAC Fisher (print) Sampler Signature: [Signature]
Sampler phone number: E-Mail ID:

LAB USE ONLY		Sample ID	Sampling		Comp	Grab	Matrix L = Liquid S = Solid	No. of Containers	Containers*		Analyses Requested	BOD	CBOD	TSS	NH ₃ -N	E. Coli	MBT	MBT	Remarks
			Date	Time					Preservatives**										
	-01	10/10/16	1:30p			VL	2												Bus CR 1539 Moby
	-02	10/10/16	1:45p			VL	2												1019 CE 1530 PATTY LITTLE
	-03	10/10/16	2:30p			VL	2												1017 CE 1530 JOYCE LITTLE
	-04																		
	-05																		
	-06																		
	-07																		
	-08																		

RELINQUISHED BY

DATE TIME

RECEIVED BY

DATE TIME

FOR LAB USE ONLY

Received on ice: ☒ Y ☐ NTemperature: 2 °CPreserved: ☒ Y ☐ NCOC Seal: ☒ Y ☐ NSeals Intact: ☒ Y ☐ N

Shipper Name: QMAC Fisher Date: 10/10/16 Time: 3:00p
Latent 5 Date: 10/10/16 Time: 1700
Henry M. Price Date: 10/10/16 Time: 1945
Shipper Number: 1111111111

*Containers: P = Plastic G = Clear Glass A = Amber Glass V = VOA Vials O = Other
**Preservatives: 1 = Ice 2 = H₂SO₄ 3 = HCl 4 = HNO₃ 5 = Na₂SO₃ 6 = Other Na₂SO₃

Chain of Custody Record

N 011003



Send to:
☐ Houston Laboratory
 Phone: 281-457-5229
☒ TCEQ Laboratory

Region: 5 Organization #: Jennifer Smith
 Sampler Name: Jennifer Smith PCA Code: _____
 Sampler phone number: 903 535 5104

Program: FW
 E-Mail ID: Jennifer.Smith@tceq.texas.gov
 E-Mail ID: _____
 E-Mail ID: _____

LAB USE ONLY	Sample ID	Sampling		Comp	Grab	Matrix L = Liquid S = Solid	No. of Containers	Containers*							Remarks
		Date	Time					Preservatives**	Analyses Requested	BOD	CBOD	TSS	NH ₃ -N	E. Coli	
	-01	10/10/16	10:35		✓	L	2							X	1351 1409 1415 1510 (FW)
	-02	10/10/16	10:43		✓	L	2							X	1352 1342 1415 1544 (FW)
	-03	10/10/16	11:17		✓	L	2							X	1353 1152 02 1512 (FW)
	-04														
	-05														
	-06														
	-07														
	-08														

RELINQUISHED BY

DATE TIME

RECEIVED BY

DATE TIME

FOR LAB USE ONLY

Received on Ice: ☒ Y ☐ N
 Temperature: 2 °C
 Preserved: ☒ Y ☐ N
 COC Seal: ☒ Y ☐ N
 Seals Intact: ☒ Y ☐ N

Received on Ice: ☒ Y ☐ N
 Temperature: 2 °C
 Preserved: ☒ Y ☐ N
 COC Seal: ☒ Y ☐ N
 Seals Intact: ☒ Y ☐ N

*Containers: P = Plastic G = Clear Glass A = Amber Glass V = VOA Vials O = Other
 **Preservatives: 1 = Ice 2 = H₂SO₄ 3 = HCl 4 = HNO₃ 5 = Na₂S₂O₅ 6 = Other

Shipper Name: _____ Shipper Number: _____

Chain of Custody Record

W 011009



Send to:
☐ Houston Laboratory
Phone: 281-457-5229
☒ EPA Houston
Laboratory

Region: 5 Organization #: PCA Code: Program: DUS
Sampler Name: THINK Toner (print) Sampler Signature: [Signature]
Sampler phone number: E-Mail ID:

LAB USE ONLY

Sample ID	Sampling		Comp	Grab	Matrix L = Liquid S = Solid	No. of Containers	Containers*		Analyses Requested	BOD	CBOD	TSS	NH ₃ -N	E. Coli	MBT	MBT	Remarks
	Date	Time					Preservatives*										
-01	10/16/18	13:16 hrs			L	2											74-56 33571 Hwy 69 North
-02	10/16/18	13:36 hrs			L	2											74-57 33564 Hwy 69 North
-03	10/16/18	13:49			L	2											74-58 33557 Hwy 69 North
-04																	
-05																	
-06																	
-07																	
-08																	

RELINQUISHED BY

DATE TIME

RECEIVED BY

DATE TIME

FOR LAB USE ONLY

Received on ice: ☒ Y ☐ N
Temperature: 2 °C
Preserved: ☒ Y ☐ N
COC Seal: ☒ Y ☐ N
Seals intact: ☒ Y ☐ N

Shipper Name: Chen's Houston Shipper Number: 10/16/18 2:15
Shipper Name: Chen's Houston Shipper Number: 10/16/18 17:00
Shipper Name: Chen's Houston Shipper Number: 10/16/18 19:45

Chain of Custody Record

011004



Send to:
☐ Houston Laboratory
 Phone: 281-457-5229
☒ EPA Lab
Houston

Region: 5 Organization #: PCA Code:
 Sampler Name: Patrick Turner
 (print)
 Sampler phone number: (903) 535-5188

Program: PWS
 Sampler Signature: Patrick Turner
 E-Mail ID:

LAB USE ONLY

Sample ID	Sampling		Comp	Grab	Matrix L = Liquid S = Solid	No. of Containers	Containers* Preservatives**		Analyses Requested	BOD	CBOD	TSS	NH ₃ -N	E. Coli	MBT	MBT	Remarks
	Date	Time															
-01	10/10/18	1128h			L	2											74-53 9519 PM 769
-02	10/10/18	1455h			L	2											74-54 915 CD 1403
-03	10/10/18	1554h			L	2											74-54 Duplicate 715 CD 1405
-04																	
-05																	
-06																	
-07																	
-08																	

RELINQUISHED BY

DATE TIME

RECEIVED BY

DATE TIME

FOR LAB USE ONLY

Shipper Name: Patrick Turner
 Shipper Number: 10/10/18 1455
 Received on ice: 2 ☒ Y ☐ N
 Temperature: 2 °C ☒ Y ☐ N
 Preserved: ☒ Y ☐ N
 COC Seal: ☒ Y ☐ N
 Seals Intact: ☒ Y ☐ N

*Containers: P = Plastic G = Clear Glass A = Amber Glass V = VOA Vials O = Other
 **Preservatives: 1 = Ice 2 = H₂SO₄ 3 = HCl 4 = HNO₃ 5 = Na₂S₂O₃ 6 = Other 10/10/18 1455

Chain of Custody Record

W 011014



Send to:
☐ Houston Laboratory
Phone: 281-457-5229
☒ Field Laboratory
Houston

Region: 5 Organization #: _____
Sampler Name: Alex Laird
Sampler phone number: _____

PCA Code: _____
Program: Pass
Sampler Signature: Alex Laird
(print)

E-Mail ID: _____

Received on: _____
Temperature: _____ °C
Preserved: ☒ Y ☐ N
COC Seal: ☒ Y ☐ N
Seals Intact: ☒ Y ☐ N

LAB USE ONLY

Sample ID	Sampling		Comp	Grab	Matrix L = Liquid S = Solid	No. of Containers	Containers* Preservatives**		Analyses Requested	BOD	CBOD	TSS	NH ₃ -N	E. Coli	MBT	MBT	Remarks
	Date	Time															
-01	10/10/12	11:20			V L 2	2											TSS ₄ 1645123104
-02	10/10/12	12:00			V L 2	2											TSS ₅ 1604123104
-03																	
-04																	
-05																	
-06																	
-07																	
-08																	

RELINQUISHED BY:

DATE: TIME:

RECEIVED BY:

DATE: TIME:

FOR LAB USE ONLY

Alex Laird

10/10/12

11:15

10/10/12

11:15

Lot # 5

10/10/12

11:00

10/10/12

11:00

10/10/12

11:00

Shipper Name: Alex Laird

10/10/12

11:00

10/10/12

11:00

10/10/12

11:00

Containers: P = Plastic G = Clear Glass A = Amber Glass V = VOA Vials O = Other

Preservatives: 1 = Ice 2 = H₂SO₄ 3 = HCl 4 = HNO₃ 5 = Na₂S₂O₅ 6 = OtherSeals Intact: ☒ Y ☐ NCOC Seal: ☒ Y ☐ NSeals Intact: ☒ Y ☐ NCOC Seal: ☒ Y ☐ NSeals Intact: ☒ Y ☐ NCOC Seal: ☒ Y ☐ NSeals Intact: ☒ Y ☐ N

Chain of Custody Record

W 011021



Send to:
☐ Houston Laboratory
 Phone: 281-457-5229
☒ EPA Houston
 Lab

Region: 5 Organization #: _____ PCA Code: _____
 Sampler Name: Phonik Turner (print)
 Sampler phone number: (913) 535-5168

Program: PLS
 Sampler Signature: Phonik Turner
 E-Mail ID: _____

LAB USE ONLY	Sample ID	Sampling		Comp	Grab	Matrix L = Liquid S = Solid	No. of Containers	Containers*		Analyses Requested	BOD	CBOD	TSS	NH ₃ -N	E. Coli	mBT	mBT			Remarks	
		Date	Time					Preservatives**	A												M
-01	10/10/18	10:24h	✓	L	2				✓	✓	74-51 709 CR 1519 74-55 282 CR 1409 74-52 290 CR 1425										
-02	10/10/18	10:49h	✓	L	2				✓	✓											
-03	10/10/18	11:06h	✓	L	2				✓	✓											
-04																					
-05																					
-06																					
-07																					
-08																					

REINQUISHED BY

DATE TIME

RECEIVED BY

DATE TIME

FOR LAB USE ONLY

Shipper Name: Phonik Turner Date: 10/10/18 Time: 2:15
 Shipper Signature: Phonik Turner Date: 10/10/18 Time: 17:00
 Shipper Name: Phonik Turner Date: 10/10/18 Time: 17:00
 Shipper Signature: Phonik Turner Date: 10/10/18 Time: 17:00

Received on Ice: ☒ Y ☐ N
 Temperature: 3 °C
 Preserved: ☒ Y ☐ N
 COC Seal: ☒ Y ☐ N
 Seals Intact: ☒ Y ☐ N

Chain of Custody Record

W 011028



Send to:
☐ Houston Laboratory
 Phone: 281-457-5228
☒ EPA Houston
 Laboratory

Region: 5 Organization #: _____ PCA Code: _____ Program: PWS
 Sampler Name: Alex Laird (print) Sampler Signature: Alex Laird
 Sampler phone number: _____ E-Mail ID: _____

LAB USE ONLY	Sample ID	Sampling		Comp	Grab	Matrix L = Liquid S = Solid	No. of Containers	Containers*		Remarks					
		Date	Time					Preservatives**	Analyses Requested						
	-01	10/10	10:25		✓	L	2								TSS 372520864N
	-02	10/10	12:23		✓	L	2								TSS TSS-52 152021616
	-03	10/10	11:04		✓	L	2								TSS 155021629
	-04														
	-05														
	-06														
	-07														
	-08														

RELINQUISHED BY

DATE TIME

RECEIVED BY

DATE TIME

FOR LAB USE ONLY

Received on ice: ☒ Y ☐ NTemperature: 3 °CPreserved: ☒ Y ☐ NCOC Seal: ☒ Y ☐ NSeals Intact: ☒ Y ☐ N

Containers: P = Plastic G = Clear Glass A = Amber Glass V = VOA Vials O = Other
 **Preservatives: 1 = Ice 2 = H₂SO₄ 3 = HCl 4 = HNO₃ 5 = Na₂S₂O₅ 6 = Other

Shipper Name: Alex Laird Shipper Number: _____
Alex Laird 10/10/10 10:25 10/10/10 17:00
Robert E. 10/10/10 12:23 10/10/10 11:04
Henry N. Jones 10/10/10 11:04 10/10/10 16:29

Chain of Custody Record

M 011017



Send to:
☐ Houston Laboratory
Phone: 281-457-5229
☒ EPA Houston
Laboratory

Region: 5 Organization #: _____ PCA Code: _____ Program: EWS
Sampler Name: Angela Hicks (print) Sampler Signature: Angela Hicks
Sampler phone number: _____ E-Mail ID: _____

LAB USE ONLY

Sample ID	Sampling		Comp	Grab	Matrix L = Liquid S = Solid	No. of Containers	Containers' Preservatives**		Analyses Requested	BOD	CBOD	TSS	NH ₃ -N	E. Coli	MBT	MBT	Remarks
	Date	Time															
-01	10/10/18	11:10 AM		✓	L	2											T2-S3 2085 CR 1514
-02	10/10/18	11:29 AM		✓	L	2											T2-S4 911 CR 1514
-03																	
-04																	
-05																	
-06																	
-07																	
-08																	

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DATE TIME

RECEIVED BY

DATE TIME

FOR LAB USE ONLY

Angela Hicks

10/10/18 11:51 AM

Angela Hicks

10/10/18 1:51 PM

Robert King

10/10/18 17:00

Robert King

10/10/18 17:00

Shipper Name: Angela Hicks

Shipper Number: _____

Containers: P = Plastic G = Clear Glass A = Amber Glass

Preservatives: 1 = Ice 2 = H₂SO₄ 3 = HClV = VOA Vial 4 = HNO₃

O = Other

6 = Other Na₂SO₃Received on ice: 4Temperature: 4 °C

Preserved:

COC Seal:

Seals Intact:

Y ☒ N ☐Y ☒ N ☐Y ☒ N ☐Y ☒ N ☐Y ☒ N ☐

Chain of Custody Record

W 011019



Send to:
☐ Houston Laboratory
Phone: 281-457-5229
☒ EPA Houston
Laboratory

Region: 5 Organization #: PCA Code: Program: PA'S
Sampler Name: Angela Hicks (print) Sampler Signature: Angela Hicks
Sampler phone number: E-Mail ID:

LAB USE ONLY	Sample ID	Sampling		Comp	Grab	Matrix L = Liquid S = Solid	No. of Containers	Containers*		Analyses Requested	BOD	CBOD	TSS	NH ₃ -N	E. Coli	MBT	MBT	Remarks
		Date	Time					Preservatives**										
	-01	10/10/18	10:05 AM		✓	L	4								2	2	T2 - S1 2070 CR 1535	
	-02	10/10/18	10:35 AM		✓	L	2								4	4	T2 - S2 2053 CR 1513	
	-03																	
	-04																	
	-05																	
	-06																	
	-07																	
	-08																	

RELINQUISHED BY

DATE TIME

RECEIVED BY

DATE TIME

FOR LAB USE ONLY

Shipper Name: Angela Hicks Shipper Number: 1010181945
Sampler Name: Angela Hicks Sampler Number: 1010181945
Sampler Name: Angela Hicks Sampler Number: 1010181945
Sampler Name: Angela Hicks Sampler Number: 1010181945

Received on ice: ☒ Y ☐ N
Temperature: 2 °C
Preserved: ☒ Y ☐ N
COC Seal: ☒ Y ☐ N
Seals Intact: ☒ Y ☐ N

Chain of Custody Record

W 011007



Sent to:
☐ Houston Laboratory
 Phone: 281-457-5229
☒ EPA Houston
 LAB

Region: 5 Organization #: _____ PCA Code: _____ Program: PHS
 Sampler Name: William Riedel (print) Sampler Signature: [Signature]
 Sampler phone number: _____ E-Mail ID: _____

LAB USE ONLY	Sample ID	Sampling		Comp	Grab	Matrix L = Liquid S = Solid	No. of Containers	Containers*		Analyses Requested	Preservatives**		Remarks			
		Date	Time					BOD	CBOD		TSS	NH ₃ -N		E. Coli	MBT	MBT
-01	10/10 2018	11:05 AM		✓	L	2				✓	✓		T1 - S4 FV 33871 US 695			
-02	10/10 2018	11:30 AM		✓	L	2				✓	✓		T1 - S5 MB 1451 CR 1615			
-03	10/10 2018	10:30 AM		✓	L	2				✓	✓		BIRDWELL 4400 HWY 204 E			
-04																
-05																
-06																
-07																
-08																

RELINQUISHED BY

DATE TIME

RECEIVED BY

DATE TIME

FOR LAB USE ONLY

Shipper Name: William Riedel Shipper Number: _____
 Received on Ice: 3 ☒ Y ☐ N
 Temperature: _____ °C
 Preserved: ☒ Y ☐ N
 COC Seal: ☒ Y ☐ N
 Seals Intact: ☒ Y ☐ N

* Containers: P = Plastic G = Clear Glass A = Amber Glass V = VOA Vials O = Other
 ** Preservatives: 1 = Ice 2 = H₂SO₄ 3 = HCl 4 = HNO₃ 5 = Na₂S₂O₃ 6 = Other Na₂SO₃









RELIQUISHED BY

RELIQUISHED BY

Chain of Custody Record

W 011022



Send to:
☐ Houston Laboratory
 Phone: 281-457-5229

Region: 5 Organization #: _____ PCA Code: _____ Program: ENV
 Sampler Name: William R. Redel (print) Sampler Signature: [Signature]
 Sampler phone number: _____ E-Mail ID: _____

LAB USE ONLY

Sample ID	Sampling		Comp	Grab	Matrix <small>L = Liquid S = Solid</small>	No. of Containers	Containers* Preservatives**		Analyses Requested	BOD	CBOD	TSS	NH ₃ -N	E. Coli	Remarks
	Date	Time													
-01	10/10	1005 AM	✓	L	2										77-51 FV 615 CR 1538 71-52 FV 33089 USG95 71-53 Huse B/D 34052 USG9N
-02	10/10	1025 AM	✓	L	2										
-03	10/10	10:50 AM	✓	L	2										
-04															
-05															
-06															
-07															
-08															

REMOVED BY

DATE TIME

RECEIVED BY

DATE TIME

FOR LAB USE ONLY

Received on Ice: 3 ☒ Y ☐ NTemperature: 3 °C ☒ Y ☐ NPreserved: ☒ Y ☐ NCOC Seal: ☒ Y ☐ NSeals Intact: ☒ Y ☐ NShipper Name: William R. Redel

Shipper Number: _____

Containers: P = Plastic G = Clear Glass A = Amber Glass

Preservatives: 1 = Ice 2 = H₂SO₄ 3 = HClV = VOA Vials 4 = HNO₃ 5 = Na₂S₂O₃O = Other 6 Other Na₂SO₃